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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,039

04/14/2006

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VO-764

9536

42419 7590 04/02/2008
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EXAMINER

DEAK, LESLIE R

ART UNIT

PAPER NUMBER

3761

MAIL DATE

DELIVERY MODE

04/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,039	Applicant(s) KUTUSHOV, MIKHAIL VLADIMIROVICH	
	Examiner LESLIE R. DEAK	Art Unit 3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/25/08</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).
3. For the purposes of examination, the Examiner referred to the drawings included in the related PCT application.
4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electric motor and gears of claims 17, 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. The Examiner has interpreted the claims to the best of her ability.

7. Claims 18, 19, 35 recite the limitation “the driving gear” in various lines of the claims. There is insufficient antecedent basis for these limitations in the claims.

8. It is unclear what applicant means by “corps” in claims 4 and 24. The Examiner is interpreting the term to mean “shape.”

9. It is unclear what applicant means by "installed in a corner of a profile" in claims 6 and 26. The Examiner is interpreting the claim to mean that the lid may be joined to the chambers at a corner.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-16 and 24-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,980,479 to Kutushov in view of US 5,934,888 to Marka et al.

In the specification and figures, Kutushov '479 discloses the apparatus substantially as claimed by applicant. With regard to claim 1, Kutushov '479 discloses a system for correcting a biological fluid such as blood comprising various channels 42, 52, 84 and valves 61, 78, 80, 84, 88, 99A, that are connected to one another. The apparatus comprises a fluid inlet 44 and fluid outlet 46, a vessel 50 containing a biocompatible suspension of a magneto-conductive material with a sorbent, mixing chamber 66 for mixing the magnetic sorbent with blood, a chamber 70 for precipitation of the magnetic sorbent with magnets 72, 74, and a filter 82 connected to the outlet of the precipitation chamber (see FIG 2 and accompanying text).

Kutushov fails to disclose that the chambers have variable capacities with a hard lid, and flexible, corrugated interchamber partitions. With regard to applicant's claim

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drawn to a rotating hinged lid, applicant claims such a structure in the alternative. The Examiner has chosen the single fixed lid to reject the claims. Bellows-style pumps are well-known in the medical art, as disclosed by Marka. In particular, Marka discloses a multi-chambered bellows pump with one way inlet and outlet valves 3. The apparatus comprises a fixed bottom plate 12 and a movable top lever plate 7. Flexible chambers 1 comprise corrugated side walls 2, and are connected by one-way valves 4 such that upon movement of the lever lid 7, a vacuum is created in one chamber, causing fluid to flow into the other chamber (see FIG 1 and accompanying text). By rocking the lever back and forth, the operator pumps fluid through the device.

It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the biological fluid correction system disclosed by Kutushov '479 into a single-housing pumping apparatus disclosed by Marka, since both structures are well-known in the art. One of ordinary skill in the art could have combined the elements disclosed by the cited prior art by known methods, and in that combination, each element would have performed the same function that it did separately. The only difference between the instant invention and the cited prior art is that the elements disclosed by Kutushov are assembled in a single bellows pump assembly as disclosed by Marka. The operation of the correction system is not dependent on the structure of the pumping apparatus, so the combination of the elements would work in the same manner as disclosed by the cited prior art, and does not provide a patentably distinct function from the prior art.

With regard to claim 2, Marka illustrates that the lever lid 7 is in a single plane (see FIG 1).

With regard to claim 3, Marka illustrates that the attached lids over each chamber are deployed at a 180-degree angle to one another, comprising an “angle shape” as claimed by applicant.

With regard to claims 4 and 24, as interpreted by the Examiner, Marka illustrates that the two-chambered pumping apparatus comprises a generally rectangular shape with some rounded corners (see FIG 1).

With regard to claims 5 and 25, Marka discloses that plate 12 is stationary on the bottom of the apparatus.

With regard to claims 6 and 26, lid hinge or bearing 8 is attached at the partition between the chambers at an upper outlet corner (see FIG 1).

With regard to claims 7 and 27, it is the position of the Examiner that the bottom of the pumping chamber suggested by the cited prior art is capable of being rotated in space by a user, meeting the limitations of the claim.

With regard to claims 8, 9, 13, 15, 28, 32, 34, 36, and 37, it has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See MPEP § 2144.04(IV)(A). In the instant case, the applicant has not demonstrated any criticality to the claimed

dimensions, and it is the position of the Examiner that the claimed dimensions would not affect the operation of the apparatus suggested by the prior art.

With regard to claims 10-12, 14, 29-31, and 33, Marka illustrates inlet and outlet valves 3, 4 located at various positions within the apparatus. It has been held that mere design changes to the placement of certain claimed elements are not patentable improvement over the prior art if the modification does not alter the operation of the device. See MPEP § 2144.04(IV)(C). In the instant case, the Applicant has not demonstrated any criticality to the claimed placement of the inlets and outlets. It is the position of the Examiner that the location of the inlet to the chamber does not affect the operation of the apparatus suggested by the prior art, and such a claim drawn to the location of the inlet does not patentably distinguish from the cited prior art.

With regard to claim 16, Kutushov '479 illustrates that magnets 72, 74, are installed outside, above and below the precipitation chamber (see FIG 2).

12. Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,980,479 to Kutushov in view of US 5,934,888 to Marka et al, further in view of US 5,073,094 to Dorman et al.

In the specification and figures, the cited prior art suggests the apparatus substantially as claimed by Applicant (see rejection above).

With regard to claim 17, the cited prior art fails to disclose an electric motor and gear apparatus. However, Dorman discloses a two-chambered bellows pump with a rocker plate^{13/55} that alternately pressurizes each chamber (see column 3, lines 34-

65). The rocker arm is moved by an electric motor 64 powered by battery 65. The motor drives a reduction gear box 63, rotating crank arm 62, that imparts motion to roller cam 61, arm 58, and rocker plate 55 via legs, 56, 57. The interacting gears comprise a tappet gear as best understood by the Examiner, meeting the limitations of the claims.

With regard to claims 18 and 19, it is the position of the Examiner that the apparatus disclosed by the prior art is capable of manual operation, meeting the limitations of the claims.

With regard to claim 20, the driving gear or rocker plate disclosed by Dorman is disposed above both chambers of the pumping apparatus, meeting the limitations of the claim.

With regard to claim 21, it has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See MPEP § 2144.04(IV)(A). In the instant case, the applicant has not demonstrated any criticality to the claimed dimensions, and it is the position of the Examiner that the claimed dimensions would not affect the operation of the apparatus suggested by the prior art.

13. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,980,479 to Kutushov in view of US 5,934,888 to Marka et al, further in view of US 4,750,868 to Lundback.

In the specification and figures, the cited prior art suggests the apparatus substantially as claimed by Applicant (see rejection above).

With regard to claim 22, the prior art fails to disclose that various parts of the apparatus are made of polyurethane. Lundback discloses a biological fluid pump with expandable chambers that may be formed of polyurethane (see column 3, lines 55-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the apparatus suggested by the cited prior art of polyurethane, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. See MPEP § 2144.07.

With regard to claim 23, it has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See MPEP § 2144.04(IV)(A). In the instant case, the applicant has not demonstrated any criticality to the claimed dimensions, and it is the position of the Examiner that the claimed dimensions would not affect the operation of the apparatus suggested by the prior art.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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- a. US 77,661 Schatz
 - i. Bellows with pivoting plate members
- b. US 5,123,901 Carew
 - ii. Body fluid separation with magnetic particles
- c. US 5,609,572 Lang
 - iii. Infusion system with suction based pumping
- d. US 6,036,857 Chen et al
 - iv. Apparatus for magnetic separation of components from a mixture

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LESLIE R. DEAK whose telephone number is (571)272-4943. The examiner can normally be reached on Monday - Friday, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tanya Zalukaeva can be reached on 571-272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leslie R. Deak/
Primary Examiner
Art Unit 3761
27 March 2008